

ECONOMIC RESEARCH SERVICE

Summary of Budget and Performance Statement of Goals and Objectives

ERS has six strategic goals which correspond to each of the six USDA strategic goals. To achieve these goals, the mission of ERS is to inform and enhance public and private decisionmaking on economic and policy issues related to agriculture, food, the environment, and rural development.

USDA Strategic Goal/Objective	Agency Strategic Goal	Agency Strategic Objectives	Programs that contribute	Key Outcome
USDA Strategic Goal 1: Enhance international competitiveness of American agriculture. USDA Strategic Objective 1.1: Expand and maintain international export opportunities.	Agency Strategic Goal 1: Enhance international competitiveness of American agriculture.	Objective 1.1: Expand and maintain international export opportunities.	Economic Research and Analysis.	Enhanced understanding by policymakers, regulators, program managers, and those shaping public debate of economic issues affecting the U.S. food and agriculture sector's international competitiveness, including factors related to international trade agreements and negotiations, market and nonmarket trade barriers, and the effects of economic and technological developments on agricultural competitiveness.
USDA Strategic Goal 2: Enhance the competitiveness and sustainability of rural and farm economies. USDA Strategic Objective 2.1: Expand domestic market opportunities. USDA Strategic Objective 2.2: Increase the efficiency of domestic agricultural production and marketing systems. USDA Strategic Objective 2.3: Provide risk management and financial tools to farmers and ranchers.	Agency Strategic Goal 2: Enhance the competitiveness and sustainability of rural and farm economies.	Objective 2.1: Expand domestic market opportunities. Objective 2.2: Increase the efficiency of domestic agricultural production and marketing systems. Objective 2.3: Provide risk management and financial tools to farmers and ranchers.	Economic Research and Analysis.	Enhanced understanding by policymakers, regulators, program managers, and those shaping public debate of economic issues affecting the U.S. food and agriculture sector's competitiveness, including factors related to performance, structure, risk and uncertainty, and marketing.

<p>USDA Strategic Goal 3: Support increased economic opportunities and improved quality of life in rural America.</p> <p>USDA Strategic Objective 3.2: Improve the quality of life through USDA financing of quality housing, modern utilities, and needed community facilities.</p>	<p>Agency Strategic Goal 3: Support increased economic opportunities and improved quality of life in rural America.</p>	<p>Objective 3.2: Improve the quality of life through USDA financing of quality housing, modern utilities, and needed community facilities.</p>	<p>Economic Research and Analysis.</p>	<p>Enhanced understanding by policymakers, regulators, program managers, and organizations shaping public debate of economic issues affecting rural development, including factors related to farm finances and investments in rural people, businesses and communities, and of economic issues relating to the performance of all sizes of American farms.</p>
<p>USDA Strategic Goal 4: Enhance protection and safety of the Nation's agriculture and food supply.</p> <p>USDA Strategic Objective 4.1: Reduce the incidence of foodborne illnesses related to meat, poultry, and egg products in the U.S.</p> <p>USDA Strategic Objective 4.2: Reduce the number and severity of agricultural pest and disease outbreaks.</p>	<p>Agency Strategic Goal 4: Enhance protection and safety of the Nation's agriculture and food supply.</p>	<p>Objective 4.1: Reduce the incidence of foodborne illnesses related to meat, poultry, and egg products in the U.S.</p> <p>Objective 4.2: Reduce the number and severity of agricultural pest and disease outbreaks.</p>	<p>Economic Research and Analysis.</p>	<p>Enhanced understanding by policymakers, regulators, program managers, and those shaping public debate of economic issues related to improving the efficiency, efficacy, and equity of public policies and programs designed to protect consumers from unsafe food.</p>
<p>USDA Strategic Goal 5: Improve the Nation's nutrition and health.</p> <p>USDA Strategic Objective 5.1: Ensure access to nutritious food.</p> <p>USDA Strategic Objective 5.2: Promote healthier eating habits and lifestyles.</p> <p>USDA Strategic Objective 5.3: Improve nutrition assistance program management and customer service.</p>	<p>Agency Strategic Goal 5: Improve the Nation's nutrition and health.</p>	<p>Objective 5.1: Ensure access to nutritious food.</p> <p>Objective 5.2: Promote healthier eating habits and lifestyles.</p> <p>Objective 5.3: Improve nutrition assistance program management and customer service.</p>	<p>Economic Research and Analysis.</p>	<p>Enhanced understanding by policymakers, regulators, program managers, and organizations shaping public debate of economic issues relating to the nutrition and health of the U.S. population, including factors related to food choices, consumption patterns at and away from home, food prices, nutrition assistance programs, nutrition education, and food industry structure. Such understanding underpins the capacity to ensure equitable access to a wide variety of high-quality, affordable food.</p>

<p>USDA Strategic Goal 6: Protect and enhance the Nation's natural resource base and environment.</p> <p>USDA Strategic Objective 6.1: Protect watershed health to ensure clean and abundant water.</p> <p>USDA Strategic Objective 6.2: Enhance soil quality to maintain productive working cropland.</p>	<p>Agency Strategic Goal 6: Protect and enhance the Nation's natural resource base and environment.</p>	<p><u>Objective 6.1:</u> Protect watershed health to ensure clean and abundant water.</p> <p><u>Objective 6.2:</u> Enhance soil quality to maintain productive working cropland.</p>	<p>Economic Research and Analysis.</p>	<p>Enhanced understanding by policymakers, regulators, program managers, and those shaping public debate of economic issues related to development of Federal farm, natural resource, and rural policies and programs to protect and maintain the environment while improving agricultural competitiveness and economic growth.</p>
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Goal 1: Enhance International Competitiveness of American Agriculture

<u>Project Statement</u>							
(On basis of appropriation)							
	2006 Actual		2007 Budget		2008 Estimated		
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Increase or Decrease</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 1:	\$13,515,884	93	\$14,159,000	96	\$1,328,000	\$15,487,000	102

Competitiveness in the global economy means being able to create and sustain comparative advantages consistent with resource endowments and technical capabilities. The Economic Research Service (ERS) program assesses policies and programs intended to understand barriers to trade including tariff and non-tariff measures and key domestic policies of foreign countries in order to capitalize on U.S. comparative advantage. Regular market analysis and outlook provide insight into major U.S. export markets opportunities and understanding of competitors' comparative advantage in global markets.

ERS continually develops and disseminates research and analysis on the U.S. food and agriculture sector's competitiveness. Key emphasis areas include analyzing trade liberalization proposals under the Doha Round, domestic policy reforms, and changes in foreign consumer demand, particular demand related to emerging markets such as China, India, and other Southeast Asian countries. ERS activities provide a foundation of research, analysis, and data to support USDA goals. In-depth analysis of agricultural market conditions and research and analysis aimed at fostering economic growth and understanding foreign market structures round out the range of emphasis areas that enhance international competitiveness of American agriculture.

Selected examples of recent progress:

India's Emerging Global Presence. ERS research reports show how commodity trade patterns are changing with India's rising income and that decreasing protectionism can further trade and improve welfare. For example, the report, *Prospects for India's Emerging Apple Market*, indicates that investment and open market competition that reduce high internal marketing costs and margins offer scope for significant gains in Indian apple consumption and imports.

China in 21st Century Agricultural Markets. ERS continues to maintain an active research program that investigates how policy and economic developments in China affect global agricultural markets. Recent research points to the fact that China has substantially raised its profile in the global market for fruits and vegetables, particularly in concentrated apple juice, fresh apples, and fresh vegetables. In other ERS research, China's rural financial system is shown to be plagued by non-performing loans and misallocation of capital to politically-favored projects. If China fails to reform its financial system, economic growth could slow.

WTO Negotiations. ERS research on trade policy is primarily focused on providing analytical support to help inform and strengthen U.S. negotiating positions on agriculture. The analysis has focused on the implications of U.S., European, and other proposals for reforming global trade. ERS has been developing quantitative estimates of the impacts of market access and export subsidy liberalization under each of the three main proposals, and developing impacts on U.S. trade and farm income. In recent work, ERS research examined the impacts of dairy policy reform on global dairy markets. Among other findings, the report suggests that international dairy policy reform would result in lower global supplies of milk and dairy products, higher world dairy prices and higher value of dairy trade.

Specific activities to move the program toward the desired goal:

ERS will identify key economic issues relating to the competitiveness of U.S. agriculture, use sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs and the effects of changing biofuel and macroeconomic market conditions on U.S. competitiveness, and effectively communicate research results to policy makers, program managers, and those shaping the public debate regarding U.S. agricultural competitiveness.

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policymakers and decision makers. These activities, based on the USDA objectives of this strategic goal, will include conducting research to fully comprehend and articulate the effects of trade agreements, political and economic structural changes, and technological developments on the international comparative and competitive advantage of U.S. agriculture.

ERS plans a range of activities to provide policymakers and other decision makers with assessments of current programs and alternative outcomes for pending or prospective policy decisions. Results will help shape the public debate on economic, trade, and biofuel policy issues affecting the food and agricultural sector. These activities will include the following:

International Trade Agreements Negotiation. Enhancing the ERS capacity to support analyses of issues related to World Trade Organization negotiations on agriculture under the Doha Development Agenda will continue to be an analytic priority. The primary focus of the project activities identified is to build analytic capacity – economic models, data, and expertise—and to respond to critical questions of trade negotiators, policy analysts, and decision makers arising from the WTO negotiations on agriculture.

China, Brazil, and India. China, Brazil, and India represent three countries that will shape global agricultural markets of the 21st century and where large uncertainties exist about future demand, supply, and policy directions. In collaboration with the Foreign Agricultural Service and with funding from the Emerging Markets Program, ERS is analyzing key markets and policy issues that will shape the size and pattern of the three countries' agricultural trade, with a focus on major U.S. agricultural exports and imports.

International Dimension of Biofuels. High oil prices have enhanced the motivation for governments around the globe to promote biofuels policies based on agricultural feedstocks to: 1) become less dependent on petroleum imports, 2) increase income to farmers, and 3) to improve the environment by burning biofuels in place of hydrocarbons. ERS is analyzing the interaction between domestic and global biofuel initiatives and their cross-commodity impacts on global agricultural markets.

Macroeconomic Linkages to Agriculture. Changes in the macroeconomy have major effects on agriculture. The main factors linking the macroeconomy to agriculture are exchange rates, consumer income, rural employment, and interest rates. Ongoing ERS research focuses on the factors that explain the declining agricultural trade balance, its relationship to farm income, and exchange rate effects on agriculture.

Goal 2: Enhance the Competitiveness and Sustainability of Rural and Farm Economies

<u>Project Statement</u>							
(On basis of appropriation)							
	2006 Actual		2007 Budget		2008 Estimated		
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Increase or Decrease</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 2:	\$26,121,776	137	\$26,552,000	141	\$5,481,000	\$32,033,000	165

ERS research and analysis provides insight into market conditions facing U.S. agriculture, avenues for innovation, and market expansion. In addition, the ERS program identifies and analyzes market structure and technological developments that affect efficiency and profitability. The program also includes research and analysis to help farmers and ranchers manage risk. ERS monitors the structure and performance of the food marketing system (food manufacturing, wholesaling, retailing, and service), both as to how efficiently the system performs its role and, in the consumer-driven agricultural economy, how effectively it conveys market signals from consumers.

The research program emphasizes the economic and financial structure, performance, and viability of the farm sector and of different types of farms, the state of global food security, technological innovation and productivity advance. ERS has made significant strides in understanding the role of intellectual property in investments in science and the implications for future technological developments. This research will help policymakers assess policy issues on innovation and the potential effects of concentration on research and market power in the agricultural inputs industry.

Selected examples of recent progress:

Assessment of Commodity Programs and Whole Farm Safety Nets. ERS assesses the effects of farm policy on the food and agricultural sector. A series of commodity background reports provide a concise overview of important sectors of the agricultural economy. They contain information on production areas, new uses, export markets, policy changes, farm households, and other information that provides insights into issues and opportunities confronting each commodity. ERS also examined proposals for whole-farm revenue safety net programs, which would be based on revenues from all farming activities and thus would not be linked to the production of particular commodities.

Food Consumption and Commodity Markets. Over the last few years, ERS researchers have examined U.S. consumer behavior using data from food use survey data. Trends suggested by the survey data are combined with forecasts for demographic characteristics to provide views of the future for associated commodity markets. For example, everything else remaining constant, demographic data in the Continuing Survey of Food Intakes of Individuals (CSFII) suggests future declines in per capita pork consumption as the share of Hispanics and the elderly in the population rises because those two groups eat less pork than the national average. However, total U.S. pork consumption will grow because of an expansion of the U.S. population.

Consumer Food Spending. ERS estimates the farm share of consumer food spending. Firms processing and distributing agricultural commodities contribute to the task of feeding American consumers by adding value to what is grown by farmers. In recent decades, however, gross revenues to these firms have tended to grow more quickly than farm receipts. Firms beyond the farm gate have been capturing more of the consumer's food dollar, while the farm share of consumer food spending has decreased. This research

confirms this general trend, but also finds that the farm share of retail food prices has decreased less than previously believed for two commodity groupings – fresh fruit and fresh vegetables.

Where You Shop Matters: Store Formats Drive Variations in Retail Food Prices. American's food shopping habits are changing. Just 20 years ago, traditional grocery stores claimed nearly 90 percent of America's at-home food purchases, compared with 69 percent today. Supercenters, warehouse club stores and other nontraditional food stores increased their share of consumer food expenditures from 18 percent in 1998 to 31 percent in 2003. ERS investigated variations in food prices by calculating national prices for a variety of dairy products, using a unique data set. Measuring variation in food prices improves our understanding of inter-regional differences in food purchasing power and the economic well being households.

Food Market Surveillance. During high-profile events, such as food safety outbreaks, access to up-to-the-minute data and information is particularly critical for decision-makers. To fill this gap, ERS established a quarterly monitoring system to provide timely and critical information on the most recent market gainers and losers to identify major food products with large swings in sales volume, price, or quantities. With the potential impacts of Avian Influenza (AI) currently a major concern, ERS contracted with three private data companies to purchase data and analysis of both U.S. and international poultry purchase behavior. This data provides a baseline estimate of the U.S. household poultry purchases as well as the trends in European and Asian countries that have experienced an AI outbreak. This enables ERS to compare and contrast actual poultry purchases of consumers before and after important events and provide analysis to help decision-makers in the public and private sector better respond to such events.

Market Analysis and Outlook. ERS continues to work closely with the World Agricultural Outlook Board (WAOB) and other USDA agencies to provide short- and long-term projections of U.S. and world agricultural production, consumption, and trade. For the fiscal year 2007 President's budget, USDA used stochastic budgeting based on an ERS project. USDA incorporated stochastic price and production information into its 10-year budget baseline projections. The Commodity Credit Corporation outlay projections for countercyclical payments, marketing loan benefits, and milk income loss contract payments were based on stochastic information generated by ERS's Food and Agricultural Policy Simulation (FAPSIM) model on feed grains (corn, barley, sorghum, oats), wheat, rice, upland cotton, soybeans, and dairy.

Web-based Results of Agricultural Resource Management Survey (ARMS). Farm finance and structure data available through the ARMS site include farm business income statements, farm business balance sheets, farm financial ratios derived from the income and balance sheet statements, farm business debt repayment capacity measures, and structural characteristics of farms. ERS makes available other data including estimates of average net cash income for farms in three different groups: farms by economic size, by resource region and by commodity specialization. In addition, prior year data forecasts of current year income are provided. Both the Farm Income and Costs and the ARMS briefing rooms are actively used by persons with an interest in farm financial status and performance. Estimates and forecasts of farm business income are used in briefings for senior management officials of the USDA and are reported for public use. Estimates and forecasts of financial position and debt repayment capacity provide a guide to farms and geographic areas that might be experiencing financial distress.

Structure and Finance of U/S. Farms: 2005 Family Farm Report. Published in 2006, this report provides research examining the status of family farms. Most farms in the United States—98 percent in 2003—are family farms. They are organized as proprietorships, partnerships, or family corporations. Even the largest farms tend to be family farms. Very large family farms account for a small share of farms but a

large—and growing—share of farm sales. Small family farms account for most farms but produce a modest share of farm output. Median income for farm households is 10 percent greater than the median for all U.S. households. Small-farm households also receive substantial off-farm income.

Agricultural Contracting: Trading Autonomy for Risk Reduction. Farm production is shifting from smaller to larger family farms and from spot (or cash) markets to contracts. Expanded use of contracts supports the shift to larger farms by reducing financial risks for farm operators, but at a loss of managerial control and reduced autonomy. In the case of hogs, the risk reduction provided by contracts is valuable to risk-averse farmers, who seek to avoid widely fluctuating input and output prices. But hog farmers also appear to value autonomy highly. Our research shows that a moderately risk-averse producer would need to be paid a price premium of nearly 12 percent to give up the autonomy of independent production.

Approaches to Management and Farm Business Success. Farm level data has been collected for use in assessing the relationship between approaches to management and farm financial success. This work examined the management structure of farms to ascertain who holds rights of control over the use of farm assets. Management units that make decisions for farms were described, extending information about how farms control and guide their businesses. Results suggest that the size and nature of the management team along with the complexity of the farm system have important implications for the success of the operation.

The First Decade of Genetically Engineered Crop in the United States. Ten years after the first generation of genetically engineered (GE) varieties became commercially available, ERS reviewed the adoption of GE crops in the United States. It examines the three major stakeholders of agricultural biotechnology and finds that (1) the pace of R&D activity by producers of GE seed (the seed firms and technology providers) has been rapid, (2) farmers have adopted some GE varieties widely and at a rapid rate and benefited from such adoption, and (3) the level of consumer concerns about foods that contain GE ingredients varies by country, with European consumers being most concerned.

Government Patenting and Technology Transfer. ERS recently examined the use of intellectual property rights in Federal technology transfer, focusing primarily on the Agricultural Research Service (ARS). ARS uses patenting and licensing when a technology requires additional development by a private sector partner to yield a marketable product. Licensing revenue is not a major motivation. Greater use of patenting and licensing by ARS has not reduced the use of traditional instruments of technology transfer such as scientific publication. The structure of licensing agreements affects technology transfer outcomes. Mutually advantageous revisions to license terms may at times maintain the incentives through which private companies distribute the benefits of public research.

Efforts to Conserve Crop Genetic Resources may not be Sufficient. Economic assessment by ERS suggests that current efforts to conserve crop genetic resources may not be sufficient. Crop genetic resources are largely public goods, so private incentives for genetic resource conservation may fall short of achieving public objectives. Within the U.S. germplasm system, certain crop collections lack sufficient diversity to reduce vulnerability to pests and diseases. Because many sources of genetic resources lie outside the U.S., ERS examined three proposed mechanisms to conserve plant genetic resources: financial assistance for conservation, stronger intellectual property rights, and technology transfer and capacity building. Analysis suggests that, as currently constituted, these initiatives appear either too limited in scope, too weakly linked to conservation efforts or inadequately funded to achieve stated objectives of crop genetic resources conservation abroad.

R&D and Uncertain Impacts of Future Productivity Gains. ERS recently published an analysis regarding future productivity gains from agricultural research and development. This report, *The Seed Industry in U.S. Agriculture*, emphasizes the impressive gains in agricultural productivity that have been driven by both public and private research, but notes uncertainty about how the increased research investment by the private sector, industry consolidation, and changes in public funding of research will affect R&D and its productivity impacts in the future.

Specific activities to move the program toward the desired goal:

ERS research and analytical activities are designed to enhance policymakers' and other decision makers' understanding of economic issues affecting the U.S. food and agriculture sector's competitiveness, expand domestic marketing opportunities, enhance agricultural production efficiency, and improve effective risk management. These activities support achievement of USDA Goal 2, "Enhance the Competitiveness and Sustainability of Rural and Farm Economies."

ERS will identify key economic issues related to the competitiveness and sustainability of rural and farm economies. ERS also will use sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs and the effects of changing biofuel and macroeconomic market conditions on rural and farm economies. ERS will effectively communicate research results to policymakers, program managers, and those shaping the public debate on the U.S. farm economy. These activities will include the following:

- Researching and disseminating economic intelligence about the structure of, performance in, information systems of, new technology in, and foreign direct investment in the U.S. food manufacturing, processing, wholesale, retail, and foodservice industries.
- Conducting economic research on and ascertaining the impacts on commodity markets of new food and nonfood uses, new agricultural and forest products, new food products, alternative fuels, and new processes and other technologies that add value.
- Providing timely, accurate agricultural economic analysis and data on the impacts of decisions in risky situations to help farmers and ranchers make more informed production and marketing decisions.

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policymakers and decision makers. These activities will include the following:

Assessment of Agricultural Policy. ERS is investigating the impacts of agricultural policy on commodity markets, prices, and farm income; linkages between the farm sector and the rural economy; and farm household financial well-being. ERS will continue to publish several commodity backgrounders. Additionally, ERS will examine the economic implications of relaxing planting restrictions for wild rice, fruit and vegetables and continue to examine revenue insurance.

New Demands for Ethanol and other Biofuels. ERS is initiating research on how agricultural markets might be affected by the increased demand for ethanol and other biofuels. ERS will study the divergent impacts of biofuels on competitiveness for different commodities and different categories of livestock and for different regions of the country.

The Geography of Food Distribution in the United States. This research will examine the complex relationships that tie the economic activities of 24 million workers across the country to produce and market food products to over 280 million American consumers. A national system account of economic

regions will provide a comprehensive description of the linkage between domestic and global food and commodity markets, and form the basis for analysis on alternative policies and programs to enhance competitiveness of our food distribution system.

Strategic Alliances in U.S. Branded Beef Programs. The study addresses organizational and institutional solutions to market failure caused by un-measurable beef quality attributes that may prevent consumers and producers from engaging in what would otherwise be a mutually beneficial transaction. Concepts from organizational economics will be applied to examine supply chain alliances formed to market branded beef products. The framework will then be applied in a case study to examine how alliances with different structures function. In addition, implications for the ability of smaller businesses to compete by targeting consumer niche markets, in light of scale economies captured by their larger competitors will also be examined.

Changing Structure of US Livestock Production. Research efforts will examine the significant changes occurring in the US livestock production sector. Particular attention will be paid to dairy and hog production. Research will involve using the 2004 Agricultural Resource Management Survey (ARMS) hog version to measure changes in structure of hog production and effects of productivity and manure management.

Forecast of Farm Income, Assets and Debt. Estimates of farm income, assets and debt (balance sheet) are developed and presented at the Agricultural Outlook Forum. An estimate of value-added to the U.S. economy by the production of farm goods and services is also estimated. Updated income and balance sheet forecasts are developed and reflect the most recent information available on production, prices and quantities of crops and livestock and products and other outputs and services generated from farms. The updates will also reflect inputs consumed in production. Updates include disaggregated value-added/farm income account information to the Bureau of Economic Analysis' (BEA) National Income Staff for their use in developing their estimates of Gross Domestic Product and National Income Accounts and their estimates of Personal Income and Outlays, and Corporate profits.

A Profile of Hired Farmworkers. This research will update an earlier ERS report (2000) to profile the farm worker population. The report topics include the influence of technological change on the demand and supply of farm workers, how wage differences influence the supply of farm workers, migration patterns, housing conditions of farm workers, including home ownership trends, farm workers and food security, and changing patterns of farm worker health.

Market Analysis and Outlook. Several initiatives will increase the quality, transparency, and accessibility of the data and analysis for the support of the USDA short- and long-term projections of U.S. and world agricultural production, consumption, and trade. An ongoing initiative seeks to provide users with more options in the delivery of timely data, such as a queriable format and a variety of output formats.

Debt Capital, Constraints, and Liquidity Management. This project examines farm debt sources and uses, constraints on credit availability, and the liquidity management practices of farmers. The role of debt in farm financial structure will be measured, principal suppliers of debt capital identified, purpose of debt use examined, and claim on farm earnings measured.

Evaluating Public Agricultural Research Benefits. This research will describe options for evaluating public agricultural research benefits, examine trends in public agricultural research, and explore changes in the sources and composition of State Agricultural Experiment Stations, and factors influencing research

topics addressed. Ongoing research will also estimate the rate of growth in agricultural productivity in the U.S. and consider factors affecting that growth.

Goal 3: Support Increased Economic Opportunities and Improved Quality of Life in Rural America

<u>Project Statement</u>							
(On basis of appropriation)							
	2006 Actual		2007 Budget		2008 Estimated		
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Increase or Decrease</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 3:	\$5,118,956	39	\$5,693,000	40	\$129,000	\$5,822,000	40

ERS research explores how investments in rural people, business, and communities affect the capacity of rural economies to prosper in the new and changing global marketplace. The agency analyzes how demographic trends, migration and immigration, job training and employment opportunities enhance rural economic welfare. Also examined are how Federal policies, public investment in infrastructure and technology enhance economic opportunity and the quality of life for rural Americans. Equally important are our efforts to research and understand economic activity of the Nation's small farmers who increasingly depend on these rural economies for employment and economic support.

ERS continues to monitor changing economic and demographic trends in rural America, particularly the implications of these changes for the employment, education, income, and housing patterns of low-income rural populations. ERS uses the most up-to-date information on conditions and trends affecting rural areas and provides the factual base for rural development program initiatives and seeks ways to enhance our ability to monitor important rural trends. The rural development process is complex and sensitive to a wide range of factors that, to a large extent, are unique to each rural community. Nonetheless, ERS assesses general approaches to development to determine when, where, and under what circumstances rural development strategies will be most successful.

Selected examples of recent progress:

Economic Well-being of Farm Households. Farm subsidy programs were introduced in the 1930s largely due to concern for chronically low, and highly variable, incomes of U.S. farm households. Today, commodity-based support programs are still prominent, though income and wealth of the average farm household now exceeds that of the average nonfarm household - by a large margin. Farm income continues to be highly variable, but the small set of farm households most at risk for income variability - because farm income represents more than one-third of household income - are those operating large farms. These farms have substantial net worth, which cushions uncertain farm income.

Growing Farm Size and the Distribution of Farm Payments. ERS recently examined the disposition of farm subsidies. Crop production is shifting to much larger farms. Since government commodity payments reflect production volumes for program commodities, payments are also shifting to larger farms. In turn, the operators of very large farms have substantially higher household incomes than other farm households, and as a result government commodity payments are also shifting to much higher-income households. Since the changes in farm structure appear to be ongoing, commodity payments will likely, under current policies, continue to shift to higher income households. This brief uses 2003 ARMS data to detail the shifts.

Education as a Rural Development Strategy. Educational attainment in rural America reached a historic high in 2000, with nearly one in six rural adults holding a 4-year college degree, and more than three in four completing high school. As the demand for workers with higher educational qualifications rises, many rural policymakers have come to view local educational levels as a critical determinant of job and income growth in their communities.

Future Impact of the Baby Boom Cohort on Rural Migration. ERS research on nonmetro population change focused on the future impact of the baby boom cohort on rural migration, the relationship between Hispanic in-migration and economic restructuring, and the growing number of African-American retirees choosing to live in nonmetro areas. Demographic trends also reflect a relentless geographic expansion of U.S. metro areas, a steady rise in the number of long-distance commuters, and rapid population growth in adjacent, nonmetro counties. In contrast, over 1,000 counties experienced overall population loss since 2000, most of which are sparsely populated and isolated from metro regions. With the natural increase in nonmetro areas now at historically low levels, migration will dominate future rural demographic trends. As a result, the fortunes of rural America in this new century are ever more closely intertwined with events beyond its boundaries and with the social, economic, technological and political forces that shape those events. ERS research will continue to focus on the changing economic and social conditions of rural residents as they move through large-scale, demographic transitions.

Specific activities to move the program toward the desired goal:

ERS research and analytical activities are designed to enhance understanding by policymakers, regulators, program managers, and organizations that shape public debate of economic issues affecting rural development. The issues include factors related to farm finances and investments in rural people, businesses, and communities. The activities are also designed to enhance understanding of economic issues related to the performance of all sizes of American farms. These activities support achievement of USDA Goal 3, “Support Increased Economic Opportunities and Improved Quality of Life in Rural America.”

ERS will identify key economic issues related to rural economic development and farm viability. ERS will also use sound analytical techniques to understand the immediate and broader economic and social consequences of how alternative policies and programs and changing market conditions affect rural and farm economies. ERS will effectively communicate research results to policymakers, program managers, and those shaping the public debate on rural economic conditions and performance of all sizes and types of farms. Examples of these activities will include the following:

- Developing a comprehensive, integrated base of information on rural economic and social conditions that can be used by Federal policymakers for strategic planning, policy development, and program assessment.
- Analyzing how investment, technology, employment opportunities and job training, Federal policies, and demographic trends affect rural America’s capacity to prosper in the global marketplace.
- Expanding research to assess the effectiveness of developing profitable alternative crops and on- or near-farm processing that add value to agricultural products and enhance the economic viability of rural communities and families.
- Conducting research to identify social and economic issues facing rural communities as they adjust to broad forces affecting their futures, such as changing farm policy, welfare reform, increased foreign competition in low-wage industries, growing demand for highly skilled labor, an aging population, and rapid growth in communities near major cities.

- Conducting research to better understand the role and effectiveness of investments in infrastructure, housing, and business assistance for sustaining rural communities, particularly in areas with rapid population growth or long-term population decline.

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policymakers and decision makers. These activities will include the following:

Impact of Alternative Farm Policy Approaches on Farms and Farm Households. ARMS data will be used in conjunction with sector-wide models to examine the effects of changes in farm commodity programs on different types of farms and households that operate farms as a part of their economic portfolio. A household typology will be developed based on the household's focus on the farm as a primary economic activity.

Understanding Rural America: A Framework for Policy. This analysis will attempt to quantify degrees of integration as a means of characterizing places and counties with substantial immigrant populations. We need to understand what attracts people to rural areas and how this may lead to jobs. This project emphasizes the importance of the rural landscape in attracting people. The rural landscape, in turn, is affected by conservation and other agricultural policies.

Goal 4: Enhance Protection and Safety of the Nation's Agriculture and Food Supply

<u>Project Statement</u>							
(On basis of appropriation)							
	2006 Actual		2007 Budget		2008 Estimated		
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Increase or Decrease</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 4:	\$6,114,948	18	\$3,627,000	18	\$58,000	\$3,685,000	18

ERS research is designed to support food safety decisionmaking in the public sector and to enhance the efficiency and effectiveness of public food safety policies and programs. The program focuses on valuing societal benefits of reducing and preventing illnesses caused by microbial pathogens; assessing the costs of alternative food safety policies; studying industry's incentives, through private market forces and government regulation, to adopt food safety innovations; assessing the value of private and public food safety actions by examining health outcomes; and analyzing consumer demand for food safety.

The Geo-Spatial Economic Analysis (GSEA) team builds on earlier ERS homeland security programs (SAS-USA) and ERS's economic, data, and geographic information systems (GIS) capabilities to analyze the economic effects of enhanced security and the potential impacts of accidental or intentional problems in the Nation's agricultural and food sectors. GSEA uses current data and information about the U.S. agricultural and food systems, including resource use, production, processing, distribution, and consumption enhanced by GIS.

ERS is continuing its research program on invasive species that affect livestock and crop production and the programs that control them. This activity contributes to USDA's efforts to prevent or control invasive species. An important concern is reducing the economic risks of invasive species to U.S. agriculture while preserving economic gains from trade and travel. ERS and the Animal and Plant Health Inspection Service (APHIS) created an Invasive Species Working Group to make suggestions on how economic

analyses can better contribute to pest risk assessments and control decisions by the public and private sectors. ERS is engaged in ongoing evaluation of the research being produced through its external grants program. ERS supports the Invasive Non-Native Species crosscut by improving economic estimates of the risks posed by non-native weeds.

Selected examples of recent progress:

Food Safety, Insurance, and Third-Party Certifiers. ERS research on traceability in food supply showed that there are many private sector third-party certifiers world-wide. ERS and the University of Pennsylvania conducted a workshop bringing together insurance industry representatives, third-party certifiers and standards owners, lawyers, and government food safety experts and certifiers. The workshop examined the relation between USDA programs and third-party food safety certification, especially questions of liability. We learned that certifiers have side-stepped legal liability but appear to be contributing to stricter food safety production decisions throughout the supply chain. The workshop was a first step in assessing the importance of certification.

Evaluating Programs to Reduce Health Risks Under Limited Budget. Policymakers are increasingly faced with allocating scarce funds among critical health risk reduction programs. Though there are no rules for making these types of decisions, economic principles can help. The principle of weighing costs and benefits can help policymakers determine which programs will save the most lives or lead to the largest improvements in health and well-being. There are a variety of ways to tally costs and benefits. In recent work, ERS food safety researchers examined how accounting for individual risk preferences can help policymakers allocate scarce dollars among programs.

Bovine Spongiform Encephalopathy (BSE) in North America. The first confirmed cases of BSE in Canada and the U.S. produced significant impacts on trade and prices of U.S. cattle and beef. However, the first North American BSE cases occurred during a period of low U.S. beef supplies, near-record but declining prices, and strong domestic demand for beef that was largely unshaken by the BSE announcement. ERS assesses factors affecting the beef markets and related meat markets. ERS provided a systematic review of market impacts beginning with the first case of BSE in North America in 2003. That report finds that increased regulations imposed additional costs on beef production and processing sectors. Canadian cattle and beef are now able to enter the United States, though with some restrictions. U.S. beef exports to Japan resumed for a short time, have been halted, and it may take years for U.S. exports there to return to earlier levels.

Program of Research on the Economics of Invasive Species Management (PREISM). ERS analysis through PREISM develops research to improve the economic basis for invasive species management decisions in cooperation with APHIS and other USDA agencies. PREISM distributes funds through two mechanisms: peer-reviewed, competitive extramural research, which distributed \$4.9 million over the last four years (2003-2006), and intramural research aimed at strengthening internal analytical capabilities to support four USDA invasive species program needs. PREISM research has funded 33 cooperative research or cooperative assistance agreements, and additional interagency agreements and competitive grants. Research with application to animal disease issues include: Value of Animal Traceability Systems in Managing Contagious Animal Diseases, Economic Impacts of Foreign Animal Disease, Robust Inspection for Invasive Species with a Limited Budget; and Economics of Managing Infectious Wildlife Disease When Livestock are at Risk. PREISM has also funded research to prioritize invasive species management on public lands.

ERS has published intramural research that estimated the economic effects of wind-borne soybean rust in 2004, highlighting the important factors involved in economic risk assessment, and the value of

information of USDA's Coordinated Framework for soybean rust surveillance in 2006. ERS staff also examined the market effects of bovine spongiform encephalopathy cases in Canada and the United States in 2006. PREISM-funded researchers estimated the economic effects of an APHIS rule to allow imports of Hass avocados from Mexico, and the analysis was included in the Federal Register notice on Nov. 30, 2004. The extramural research program has resulted in approximately 40 published journal articles and book chapters, and over 100 presentations at professional meetings.

Specific activities to move the program toward the desired goal:

ERS research and analytical activities are designed to enhance understanding by policymakers and other decision makers of economic issues related to improving the efficiency, efficacy, and equity of public policies and programs aimed at protecting consumers from unsafe food. These activities support achievement of USDA Goal 4, "Enhance Protection and Safety of the Nation's Agriculture and Food Supply."

ERS will identify key economic issues related to protecting consumers from unsafe food and the food supply from contamination. ERS will also use sound analytical techniques to understand the immediate and long-term efficiency, efficacy, and equity consequences of alternative policies and programs aimed at ensuring a safe food supply. ERS will effectively communicate research results to policymakers, program managers, and those shaping efforts to protect consumers from unsafe food. Examples of these activities will include the following:

- Conducting food safety economics research, with the goal of providing a science-based approach to valuing food safety risk reduction, assessing industry costs of food safety practices, and understanding the interrelated roles of government policy and market incentives in enhancing food safety.
- Providing the public and decision makers with food safety and biosecurity information through publications, Web materials, and briefings that address several economic aspects of food safety, including consumer knowledge and behavior, industry practices, the relationship between international trade and food safety, and government policies and regulations.
- Working with Federal food safety agency partners to evaluate available foodborne illness data related to meat, poultry, and egg products and to develop more accurate measures of the effectiveness of regulatory strategies in reducing preventable foodborne illness.
- Conducting research on consumer awareness of and attitudes toward food safety risks in order to support education and outreach efforts and to improve understanding of the consumer benefits of various regulatory actions.
- Expanding research, modeling, and data sources that aid in analyzing emerging, potentially high-risk threats to public food safety and U.S. agriculture.
- Developing research to better understand the economics of trade and invasive species. In particular, how do policies that reduce risk of exposure to new pests through trade restrictions affect commodity prices and U.S. trade?
- Integrating information from biological, epidemiological, and other sciences into economic models to develop credible and concrete bioeconomic risk assessments that will help public agencies allocate resources among programs that exclude, monitor, and control invasive species.
- Assessing policies designed to exclude, monitor, and control invasive pests with regard to the economic efficiency of different prevention and control strategies for invasive species management.

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policymakers and decision makers. These activities will include the following:

Reduction in Foodborne Illness and Health Outcomes. The Centers for Disease Control and Prevention FoodNet surveillance system has reported that the incidence of several major foodborne pathogens has declined substantially since the mid-1990's. This suggests that measures to improve the safety of the food supply such as the Hazard Analysis Critical Control Point program have had a positive effect on health. ERS will analyze recent trends in morbidity and mortality due to gastroenteritis to assess how the incidence of these conditions changed during the period when FoodNet reported a reduction in major foodborne pathogens, but hospitalizations due to gastroenteritis increased.

Third-Party Certifiers and Food Safety. The importance of certification to the safety of the Nation's food supply is an unknown. To examine this question we need to know how different certified food is from uncertified (meeting minimum Federal standards), how much of the food supply meets higher standards, and know what factors most influence the demand for certified safe food. ERS plans to use data gathered under a cooperative research agreement with the University of Pennsylvania, along with plant-level data from the Food Safety and Inspection Service, to produce a report on food safety and third-party certification.

The Impacts of Food Safety Information on Meat Demand. This research will investigate whether publicized food safety information on beef, pork, and poultry have impacted meat demand. Weekly and monthly household data on meat purchases collected by the A.C. Nielsen Company will be aggregated to the beef, pork, and poultry commodity level estimation purposes. By using this high-frequency data, short periods of decline and recovery in meat demand can be estimated. Consumer reactions to food safety information will be explored using indices of media attention to safety for each meat product.

Increased Food Safety Incidences in Vegetables. A 2006 outbreak of *e-coli* O157:H7 was traced to spinach—the 20th case of microbial contamination traced to leafy greens in the last 11 years. This last outbreak highlights the continuing problem of foodborne illness outbreaks traced to fresh produce. ERS analysts will examine market and policy issues related to the increased occurrences of food safety in produce.

Animal Disease. Over the past few years, disease has repeatedly drawn attention to animal agriculture, both in the United States and globally. Outbreaks of foot-and mouth disease, avian influenza and BSE (Mad Cow Disease) have impacted the livestock and poultry industry worldwide. To better understand the future of the industry, ERS researchers will examine the development of regulations to control animal disease, assess secondary impacts on feed industries, and estimate the market impact of potential for catastrophic events in all segments of animal agriculture.

Development of a Global Sanitary and Phytosanitary Regulation Database. ERS is developing a database of international invasive species regulations for selected products of interest to U.S. stakeholders.

Smuggling Contraband and Invasive Species. Smuggled contraband goods are a pathway for the entry of invasive species into the U.S for two reasons - first, the contraband good itself may be an invasive species (the brown tree snake) and second, the contraband may be a carrier for some other invasive organism (gamecocks carrying avian influenza). Depending on data availability, ERS will examine the responsiveness of smuggling to price signals and regulatory enforcement.

Goal 5: Improve the Nation's Nutrition and Health

<u>Project Statement</u>							
(On basis of appropriation)							
	2006 Actual		2007 Budget		2008 Estimated		
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Increase or Decrease</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 5:	\$16,781,856	58	\$16,966,000	60	\$193,000	\$17,159,000	60

ERS provides timely and in-depth analysis of the Nation's food consumption trends, dietary patterns, and the resulting nutritional and health outcomes. ERS's analysis and reporting are based on applied research that seeks to understand the linkages among preferences, economic incentives, and food choices. Food and dietary choices are influenced not only by prices, income, and Federal nutrition assistance programs such as the Food Stamp Program, but also from preferences shaped by family structure, time constraints, psychological factors, and nutrition information. To inform policymakers and the public about such determinants and drivers of consumption trends, ERS maintains and analyzes data sets that provide different "views" of the food consumption picture: food availability, household food spending, and which foods are eaten by whom, where, and how much. Obesity—including understanding its costs to individuals and society, how income and knowledge affect obesity status, and considering private versus public roles in reducing obesity—is an important focus of the current ERS program. Much of the debate over the reasons for the rise in overweight and obesity in the United States has focused on the cost of healthful food—with some arguing that low-income households cannot afford healthful food and others insisting that even for low-income households cost is not a barrier to a healthful diet. A current focus of ERS research program is to investigate the role of food prices on healthful food choices.

USDA administers 15 domestic nutrition assistance programs that together form a nutritional safety net, providing children and low-income adults with either food, the means to purchase food, and/or nutrition education. These programs affect the lives of millions of people and receive substantial Federal funding. At some point during the year, about one in five Americans participates in at least one of USDA's nutrition assistance programs and Federal outlays for these programs account for over half of USDA's total budget. Through its Food Assistance and Nutrition Research Program (FANRP), ERS conducts studies and evaluations of the Nation's nutrition assistance programs. FANRP's mission is "economic research for a healthy, well-nourished America." FANRP research is designed to meet the critical information needs of USDA, Congress, program managers, policy officials, the research community, and the public at large.

FANRP integrates an intramural and extramural research program. The intramural program, conducted internally by ERS staff research, uses the agency's large research capacity, taking advantage of the agency's internal research capital and specialized knowledge base. At the same time, FANRP funds extramural research, often conducted jointly with ERS staff, that draws on the multidisciplinary expertise of nationally recognized social and nutrition science researchers and the resources of such noted institutions as the National Academy of Sciences, National Science Foundation, National Bureau of Economic Research, Urban Institute, the Brookings Institute, and numerous universities across the country. The three perennial research themes of FANRP are dietary and nutritional outcomes, food program targeting and delivery, and program dynamics and administration. Within these general themes, priority areas of research are selected annually. In developing the research priorities, FANRP works closely with USDA's Food and Nutrition Service.

The ERS program provides policymakers, regulators, program managers, and those shaping public debate with timely, high-quality analyses and data to enhance understanding of economic issues affecting the nutrition and health of the U.S. population. These issues include factors related to food choices, consumption patterns, food prices, food security, nutrition assistance programs, nutrition education, and food industry structure. Such understanding underpins the capacity to understand and react to issues surrounding obesity, homeland security, and the responsiveness of the food system to consumer demands in a timely, effective manner. ERS enhances data on food markets, prices, consumption, and nutrition assistance by adding modules to national surveys, procurement of proprietary data, and linkages between survey and extent data.

Selected examples of recent progress:

How Low-Income Households Allocate Their Food Budget Relative to the Cost of the Thrifty Food Plan.

By allocating their food budgets in accordance with USDA's Thrifty Food Plan (TFP), which serves as a national standard for a low-cost nutritious diet especially for food at-home, low-income U.S. households can meet recommended dietary guidelines. This study seeks to determine whether selected types of low-income households allocate their food budgets in accordance with the TFP. In addition to expenditures for total food and food-at-home, the study looks at four large food-at-home categories that include meats, cereals and bakery goods, fruits and vegetables, and dairy products. The study finds that low-income households as a whole spend about 86 percent of the TFP costs for food at home. These households spend approximately the TFP amount on cereals and bakery goods (102 percent), but only 53 percent of the TFP costs on fruits and vegetables. Simulations for specific types of low-income households indicate that female-headed households with children and married couples with children are least likely to equal the TFP expenditures.

Household Food Security in the United States. Food security for a household means that all household members have access, at all times, to enough food for an active, healthy life. To inform policymakers and the public about the extent to which U.S. households consistently have economic access to enough food, ERS publishes an annual statistical report on household food security in the United States. The report and its underlying data are widely used by government agencies, the media, and advocacy groups to monitor the extent of food insecurity in this country, progress toward national objectives, and performance of USDA's nutrition assistance programs. The latest report, *Household Food Security in the United States, 2004*, based on data from the December 2004 Food Security Survey, provided the most recent statistics, at the time of publishing, on the food security of U.S. households, as well as on how much they spent for food and the extent to which food-insecure households participated in Federal and community nutrition assistance programs. Results show that 88 percent of American households were food secure throughout the entire year in 2004. The remaining 12 percent of households were food insecure at least some time during that year.

Assessing the Nutrient Intakes of Vulnerable Subgroups. In recent years, concerns about the nutritional adequacy of the diets of certain population subgroups have arisen. Recent ERS research provides a comprehensive analysis of the nutrient adequacy of segments of the population at risk of inadequate nutrient intake, excessive intake, or dietary imbalances, based on the CSFII conducted in 1994-96 and 1998. The segments included adolescent females, older adults, children and adults at risk of overweight, individuals living in food-insufficient households, low-income individuals, and individuals targeted by and participating in nutrition assistance programs. The report adds to a growing literature that uses current, improved knowledge of nutrient requirements and recommended nutrient assessment methods to analyze nutrient intakes. The report indicates generally inadequate intakes of key micronutrients, especially magnesium, calcium, folate, and vitamin E; energy intakes less than recommended energy requirements for adults; and consumption of too much food energy from fat and not enough from

carbohydrates; and inadequate intakes of fiber. In addition, diet adequacy deteriorates as individuals get older. Children—especially infants and young children—have diets that are more nutritionally adequate than those of adolescents and adults.

Relationship between Food Stamps Receipt and Obesity has Weakened. Because food stamps are designed to serve as a first-line defense against food insecurity, food stamps are not expected to be connected to America's obesity problem. Though such a connection appeared to exist in the late 1980s and early 1990s, it does not appear to hold today. ERS research finds a weakening relationship between food stamp receipt and weight status using the latest national data. This reversal is most noticeable among women, the group for which differences between participants and non-participants received the most attention and for whom previous research has found the most consistent associations between food stamps and weight. For women, multi-year data show the opposite of what we would expect to find if food stamps were behind increased obesity. For men, it appears that food stamp participants are catching up weight-wise with non-participants.

Promoting a Healthful Away-From-Home Diet: Knowledge and Preferences: Americans consume a growing proportion of their calories at restaurants and fast food places, although these foods tend to be more calorie-dense and nutritionally poorer than foods prepared at home, on average. However, little is known about how the desire for a healthy diet and diet-health knowledge affect consumer behavior in the fast growing away-from-home market. Some have even questioned whether consumers want healthful foods or apply their knowledge of health and nutrition, when making choices about where to eat out and how often to do so. This study examines the impact of the desires for health, entertainment, and convenience, along with the consumer's knowledge of health and nutrition, on a consumer's frequency of eating out and the type of restaurants he or she chooses to patronize. Having more advanced diet-health knowledge, as evidenced by a greater understanding of diet-disease relationships, increases the likelihood that a consumer patronizes fast-food outlets.

Tracking Trends in U.S. Food Consumption. ERS maintains the U.S. per capita food consumption data system. This system is an important statistical indicator that tracks food and nutrient availability from 1909. The data facilitate policymaking and regulatory decisions about farm assistance programs, nutrition education, public health programs, and regulation of vitamin and mineral fortification and food labeling. The system is regularly updated as new data becomes available. The redesigned interactive Web-based data system released in 2005 allows users to either download standard spreadsheets or use the newly expanded custom database to develop tables or charts for specific food groups, commodities, and years. In addition, ERS researchers publish reports on U.S. food consumption patterns using the database on a regular basis.

Consumer Data Initiative. In 2006, ERS continued development of a comprehensive consumer food consumption database comprised of the ERS's Food Consumption (Per capita) Data System, food intake data gathered from the National Health and Nutrition Examination Survey (NHANES), and from proprietary datasets. ERS also finalized the development of the Flexible Consumer Behavior Survey in 2006, which will be fielded as a supplement to the NHANES in 2007-2008. ERS acquired three additional food consumption datasets: the 2003-4 NET (National Eating Trends) and CREST (Consumer Reports on Eating Share Trends) data from the NPD Group and the AC Nielsen Homescan consumer panel data on packaged and random weight food purchases.

Food Stamp Program Costs and Error Rates. Evidence is strong that, beginning in 1995, an increase in reported certification-related costs per Food Stamp Program (FSP) household contributed to reduced error rates. Recent ERS research studied trends in FSP administrative costs and errors from 1989 to 2001,

describing the trends and composition of FSP administrative costs. The results imply that, in the period after the Personal Responsibility and Work Opportunity Reconciliation Act of 1996, States on average had to spend more effort on certification-related activities than in previous years to achieve a given level of accuracy. Research results predict that, if a State's FSP certification budget is fixed and the number of FSP households increase, the effort per FSP household will fall and error rates will rise, all other things equal.

Recent Trends and Economic Issues in the WIC Infant Formula Rebate Program. Over half of all infant formula sold in the United States is purchased through the Special Supplemental Nutrition Program for Women, Infants, and Children (WIC). Typically, State WIC agencies obtain substantial discounts in the form of rebates from infant formula manufacturers for each can of formula purchased through the program. However, concern has been raised that the cost to the States of providing infant formula to WIC participants is increasing, a result that if sustained, could have far-reaching negative implications for the WIC Program. This study found that the cost of providing infant formula to WIC participants has increased in recent years. This increase in costs coincides with the introduction of higher priced DHA- and ARA-supplemented infant formulas. Conditions may change after the market adjusts to these new formulas.

South Carolina Food Stamp and Well-being Studies. This study examines patterns of Food Stamp Program use and other types of in-kind assistance among current and former welfare recipients in South Carolina and the role that non-cash assistance plays in maintaining families' well-being as they transition off of welfare. People who receive public assistance confront a number of "clocks" that may affect program participation. Examples of clocks include time limits on receiving benefits and recurring deadlines for reconfirming eligibility. This report, *South Carolina Food Stamp and Well-Being Study: Well-Being Outcomes Among Food Stamp Leavers*, examines the role of program clocks, economic conditions, and other circumstances on participation in South Carolina's cash and nutrition assistance programs. The study shows that South Carolina's 2-year time limit in receiving Temporary Assistance for Needy Families (TANF) benefits in any 10-year period hastens exits from and reduces returns to the program and that the State's policy of quarterly recertifications hastened exits from the FSP. In addition, annual redeterminations may contribute to TANF exits. Finding employment speeds exits from the FSP and cash assistance and delays returns to the programs. Cash assistance participation may lead to longer spells of receiving food stamps.

Another report—*South Carolina Food Stamp and Well-Being Study: Transitions in Food Stamp Participation and Employment Among Adult-Only Households*—focused on adult-only households. Several recent changes in the FSP have been directed at households without children. Some of the changes, such as new work requirements and time limits for able-bodied adults without dependents (ABAWDs), are intended to encourage economic self-sufficiency and to reduce program dependence. Other changes are intended to raise low program participation rates among vulnerable groups. The study shows that households subject to ABAWD policies had shorter spells of food stamp participation, longer spells of food stamp nonparticipation, and higher rates of employment than did households not subject to the policies. In addition, adult-only households were much more likely to leave the FSP at recertification time than at other times. Finding employment hastened exits from the FSP and delayed returns.

Specific activities to move the program toward the desired goal:

ERS research and analytical activities are designed to enhance understanding by policymakers, regulators, program managers, and organizations shaping public debate of economic issues relating to the nutrition and health of the U.S. population, including factors related to food choices, consumption patterns at and away from home, food prices, nutrition assistance programs, nutrition education, and food industry

structure. Such understanding underpins the capacity to understand and react to issues surrounding obesity, homeland security, and the responsiveness of the food system to consumer demands in a timely, effective manner. These activities support achievement of USDA's Goal 5, "Improve the Nation's Nutrition and Health."

ERS will identify key economic issues affecting food prices and food consumption patterns; use sound analytical techniques to understand the immediate and broader economic and social consequences of the changing structure of the food industry and of policies and programs aimed at ensuring consumers equitable access to affordable food and to promote healthful food consumption choices; and effectively communicate research results to policymakers, program managers, and those shaping the public debate regarding healthful and nutritious diets. Examples of these activities will include the following:

- Providing economic analysis of the food marketing system to understand factors affecting the availability and affordability of food for American consumers.
- Providing enhanced annual estimates of the quantity of food available for human consumption and measures of disappearance and loss in the food system.
- Providing economic analysis of how people make food choices, including demands for more healthful, nutritious, and safer food; and of the determinants of those choices, including prices, income, education, and socio-economic characteristics.
- Conducting analyses of the benefits and costs of policies to change behavior to improve diet and health, including nutrition education, labeling, advertising, and regulation.
- Conducting evaluations and economic analyses of the impacts of the Nation's domestic nutrition assistance programs, including the Food Stamp Program; the Special Supplemental Nutrition Program for Women, Infants, and Children; the School Lunch Program; and the Child Nutrition Programs.
- Evaluating the dietary and nutritional outcomes of USDA's food and nutrition assistance programs.
- Conducting research on food program targeting and delivery to gauge the success of programs aimed at needy and at-risk population groups, and to identify program gaps and overlaps.
- Conducting research on program dynamics and administration, focusing on how program needs change with local labor market conditions, economic growth and recession, and how changing State welfare programs interact with food and nutrition programs.

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policymakers and decision makers. These activities will include the following:

Development of a Questionnaire on Dietary Behavior of Low-Income Populations. This project will develop a short questionnaire of important dietary behaviors associated with dietary quality and that will be widely usable with low-income populations across the United States. The questionnaire will be made up of a core set of questions that will assess broad areas of dietary behavior as emphasized by Federal dietary guidance and exemplified by the *2005 Dietary Guidelines for Americans* and the 2005 update of the USDA Food Guidance System.

Improving the Diets of Food Assistance Program Participants. Findings from behavioral and psychological studies indicate that people predictably and regularly behave in ways that contradict some of the standard assumptions of economic analysis. In this study, ERS researchers will incorporate the biases and heuristics found from behavioral studies into a unified model of consumer behavior. This framework will be used to examine how food assistance and nutrition programs, such as Food Stamps, WIC and the USDA school meal programs can expand the options with which to improve the diet quality and health outcomes of their participants.

Assessing the Affordability of Healthful Food. Much of the debate over the reasons for the rise in overweight and obesity in the United States has focused on the cost of healthful food—with some arguing that low-income households cannot afford healthful food and others insisting that even for low-income households cost is not a barrier to a healthful diet. This project will investigate the role of cost/price on food choices. This investigation will seek to answer two questions: can Americans afford a healthful diet? and, are cheap “unhealthy” foods driving expensive “healthy” foods out of the American diet?

Commodity Supplemental Food Program: Participation and Administration. The Commodity Supplemental Food Program (CSFP) is available in 33 States, 14 of which have joined since the mid-1990s. Interstate and intrastate variability in geographic coverage, program design, and interactions with other food assistance programs make designing a useful evaluation difficult without better information on the kinds of programs. The goal of this research is to understand how CSFP fits into the array of Federal food assistance and nutrition programs and whether it fulfills needs that would otherwise go unmet or, instead, duplicates other programs that may be more effective.

The Food Distribution Program on Indian Reservations: Still “An Acceptable Alternative” to Food Stamps? The Food Distribution Program on Indian Reservations (FDPIR) has been an alternative to the Food Stamp Program (FSP) since 1977, providing participants in 22 States with a monthly package of commodities in place of Food Stamp Program electronic benefits. This project will compare the two programs with regard to eligibility, participation, administration, and possible effects on health and nutrition. The goal of the project is to assess whether the early characterization of FDPIR as “An Acceptable Alternative” to the Food Stamp Program remains the best way to view the roles of the two programs in food assistance on and near Indian reservations.

Food Stamp Program (FSP) Certification Costs and Errors, 1989-2005. This study will examine the causes of recent declines in FSP error rates, including the possible role of recent options for program simplification and new emphasis on access. The project will also examine the role of State program policies, caseload characteristics, economic conditions, and expenditures on certification-related activities.

U.S. Demand for Organic Produce. Health and food safety concerns have motivated U.S. consumers to purchase more organic produce in recent years. In this project, ERS researchers will analyze the 1999-2003 AC Nielsen Homescan consumer panel data to study demands for organic produce before and after the new standards. ERS plans to profile organic consumers and describe trends for organic produce market before and after implementation of new standards. In addition to descriptive analyses, we will estimate the price premium for organic produce over conventional produce using the hedonic econometric approach. A demand system will also be estimated to obtain demand elasticities for organic produce.

Consumer Data Initiative. ERS is conducting several research activities using information gathered under the Consumer Data Initiative:

- ERS is collaborating with the Community Nutrition Research Group (CNRG) at the Agricultural Research Service to develop a food-commodity database (Food-Commodity Economic Database) for the 1999-2004 National Health and Nutrition Examination Survey (NHANES), followed by efforts to modify the database for earlier food intake data to support trend analyses of commodity use.
- ERS is collaborating with the National Center for Health Statistics to field a Flexible Consumer Behavior Survey (FCBS) as a supplement to the NHANES. The FCBS will capture additional

information from NHANES respondents to explain consumer dietary behavior and assess the impact of USDA's food assistance and nutrition education programs. ERS will review and revise the FCBS version that is being fielded in the 2007-2008 NHANES and develop an updated version for 2009-2010 NHANES.

- ERS is conducting formative research for the development of a set of subjective questions that could ultimately form the basis of a behavioral module to be added to standard consumption and health surveys, such as the NHANES. The module will help us understand the psychological factors that drive food choices. This behavioral module would support ERS research by filling the need for information on the behavioral and psychological causes of poor diets and obesity in the United States.
- The Food Consumption/Availability (Per Capita) Data System is one of the most popular databases on ERS's Web site (www.ers.usda.gov/data/foodconsumption/). In 2007, ERS will systematically revise and validate the loss assumptions in the different stages of the food marketing and consumption chain for the several hundred foods included in the database, so that the data more accurately estimate actual intake, through grants and cooperative agreements.
- The American Time Use Survey (ATUS) collects information on how Americans spend their time. In October 2005, the ATUS Food & Eating Module was added and will run through December 2007. The module was developed by ERS and is funded by ERS and the National Institutes of Health, National Cancer Institute, and contains questions on eating while engaged in other activities, such as while watching TV or while driving; height and weight; participation in the Food Stamp Program and school meals program; grocery shopping and meal preparation; and household income. These data will allow research on whether certain patterns of eating and of time use are associated with obesity; whether food assistance recipients are more time pressured than other low-income individuals; and what are the travel times to grocery shopping for various demographic and geographic groups.
- ERS is funding the Panel Study of Income Dynamics (PSID) to enable a third wave of the Child Development Supplement (CDS) in 2007. The PSID is a unique data base for examining participation in food assistance programs, as well as the dynamic links between behavior, diet, health and important socioeconomic characteristics, including income and wealth. The first wave of the CDS started in 1997 by collecting detailed information on a PSID subset of 0-12 year-old children and their parents. The third wave, made possible by funding from ERS, will follow up on these children and provide researchers with a comprehensive, nationally representative, and longitudinal data base of these children and their families. The CDS & PSID data will allow us to understand the determinants of the increase in child overweight and obesity rates.

U.S. Demand for Fruits and Vegetables. The 2005 *Dietary Guidelines for Americans* calls for increased intakes of fruits and vegetables because diets rich in fruits and vegetables are likely to reduce the risk of many chronic diseases. Some studies, however, indicate that the prices of fruits and vegetables are relatively higher than other foods causing less fruit and vegetable consumption, especially for the low-income households. This study will examine how price and income affect fruit and vegetable consumption. This study will also examine the patterns of U.S. fruit and vegetable imports and their effects on the American diets.

Effective Tax Rates and Guarantees and Food Stamp Program Participation. Concern has arisen about possible work-disincentive effects of Food Stamp Program (FSP) rules that impose high effective tax rates on families that choose to increase their work effort and about program actions that effectively reduce the level of program guarantees. The rules in question reduce actual benefits from cash transfers

and from the FSP. This study will examine the impact of these effective tax rates and guarantees on households' decisions to participate in the FSP, conditional on other macroeconomic, demographic, and policy factors.

Structural Change in the Food Stamp Program Caseload Equation. Historically, FSP caseloads are positively correlated with aggregate economic activity as measured by the unemployment rate. This relationship is useful in explaining fluctuations in FSP caseloads and predicting future caseload levels and budget requirements. Over time, however, the quantitative relationship between FSP caseloads and the unemployment rate appears to have reversed itself qualitatively, with increasing FSP caseloads associated with declining unemployment rates. The changing nature of the relationship between FSP caseloads and the unemployment rate raises questions about the usefulness and reliability of this relationship in explaining period-by-period changes in FSP caseloads. The study will evaluate the ability of regressions of the FSP caseload equation that includes measures of economic activity (the unemployment rate and total non-farm employment) to explain year-to-year changes in FSP caseloads.

WIC Vendor Cost-Containment: Markets, Competition, and Program Costs. Considerable controversy surrounds the impact of WIC-only vendors participating in the WIC supplemental foods program. WIC-only stores attract participants by restricting items carried to only authorized WIC foods. Most WIC-only stores redeem vouchers—item prices may not be indicated—and they may not accept cash. As a result, WIC-only stores are isolated from typical market forces which determine prices in the commercial retail food sector. This report will examine the economic issues surrounding the determination of competitive markets, prices, and peer groups, and, using empirical data, will assess the impact of alternative scenarios on State agency program costs.

Goal 6: Protect and Enhance the Nation's Natural Resource Base and Environment

<u>Project Statement</u>							
(On basis of appropriation)							
	2006 Actual		2007 Budget		2008 Estimated		
	<u>Amount</u>	<u>Staff Years</u>	<u>Amount</u>	<u>Staff Years</u>	<u>Increase or Decrease</u>	<u>Amount</u>	<u>Staff Years</u>
Goal 6:	\$7,350,938	55	\$8,175,000	57	\$183,000	\$8,358,000	57

ERS continues to research the two primary working lands programs—the Environmental Quality Incentives Program (EQIP) and the new Conservation Security Program (CSP) —individually and in combination. That project fills a large gap in the knowledge base relating to the implications of the myriad decisions necessary to design a working lands program. Many decisions needed to implement current working land programs have yet to be made or may be revisited over the next few years. This project focuses on coordination between EQIP and CSP, an issue that has yet to be addressed in research or in the policy process.

ERS is examining the trade-off in obtaining conservation benefits and the effects of meeting the regional equity requirement provision, such as how regional equity impacts the allocation of national program funding for the four programs, and how regional equity impacts programs' costs and their ability to target environmental attributes (i.e., achieve main program objective).

ERS examines environmental credit trading as an innovative approach currently being used to allow regulated industries to achieve pollution abatement goals at least cost to society. Agriculture can become

a supplier of environmental credits by implementing management practices that produce environmental services (reduced pollution, new wetlands, carbon sequestration). Farmers can benefit by participating in environmental credit markets, but some hurdles exist that could hinder participation. USDA programs can help leverage farmer participation in these markets, and farmer participation in markets can help leverage private sector funds for conservation. The USDA role in promoting environmental credit trading is to reduce transaction costs by developing and evaluating tools to facilitate farmer participation, developing accounting practices for quantifying environmental goods and services (carbon inventory), and providing education and technical assistance to farmers.

Selected examples of recent progress:

Assessing the Effectiveness of Voluntary Conservation Programs. Recent ERS research addresses the question regarding program participation, which requires an understanding of why producers participate in the programs, what incentives encourage participation and how might policies be designed to encourage participation. This report, *Conservation-Compatible Practices and Programs: Who Participates?*, examines the business, operator, and household characteristics of farms that have adopted certain conservation-compatible practices, with and without financial assistance from government conservation programs. The analysis finds that attributes of the farm operator and household and characteristics of the farm business are associated with the likelihood that a farmer will adopt certain conservation-compatible practices and the degree to which the farmer participates in conservation programs. For example, operators of small farms and operators not primarily focused on farming are less likely to adopt management-intensive conservation-compatible practices and to participate in working-land conservation programs than operators of large enterprises whose primary occupation is farming.

Economic Briefs on Conservation Program Design. Voluntary conservation payment programs must specify who is eligible to receive payments, how much can be received, for what action, and the means by which applicants are selected. Achieving program goals in a cost-effective manner hinges on the choices policymakers and program managers make when answering these questions. A set of five Economic Briefs explores specific design options these decision makers face: balancing income support and environmental objectives; whether and how to target programs to improve cost effectiveness and environmental performance; whether and how to use bidding in determining payment levels; balancing land retirement with conservation on working lands; and whether to pay for conservation practices or to link payments to environmental performance.

Balancing the Multiple Objectives of Conservation Programs. Many of the Nation's conservation programs use an index approach to prioritize environmental and cost objectives. In an index, objectives are weighted by relative importance. This report provides empirical evidence on the cost and environmental benefit tradeoffs of different weighting schemes in USDA's Conservation Reserve Program (CRP) and considers how different schemes induce different sets of landowners to offer land for enrollment. The report finds that while small changes in index weights do not markedly affect levels of environmental benefits that can be achieved at a national level, larger changes can have a moderate impact.

Major Uses of Land in the U.S., 2002. This publication presents the results of the latest (2002) inventory of U.S. major land uses, drawing on data from the Census, public land management and conservation agencies, and other sources. The data are synthesized by State to calculate the use of several broad classes and subclasses of agricultural and nonagricultural land over time. The United States has a total land area of nearly 2.3 billion acres. Major uses in 2002 were forest-use land, 651 million acres (28.8 percent); grassland pasture and range land, 587 million acres (25.9 percent); cropland, 442 million acres (19.5 percent); special uses (primarily parks and wildlife areas), 297 million acres (13.1 percent);

miscellaneous other uses, 228 million acres (10.1 percent); and urban land, 60 million acres (2.6 percent). National and regional trends in land use are discussed in comparison with earlier major land-use estimates.

Environmental Effects of Agricultural Land-Use Change: The Role of Economics and Policy. Research examined evidence on the relationship between soil productivity, environmental sensitivity, and the physical characteristics of crop and grazing and forest lands that have and have not changed use between 1982 and 1997. The report also estimates land-use and environmental impacts stemming from a growth in crop insurance subsidies during the 1990s and from the CRP. On average, lands transitioning between cultivated cropland and less intensive agricultural uses are more erodible than other lands in these uses, both nationally and locally. These lands are also associated with greater nutrient runoff and leaching compared with cultivated cropland nationally. Crop insurance and CRP are estimated to impact land use on lower quality and some environmentally sensitive lands. However, these lands differ geographically and environmentally from each other, and from other lands transitioning to and from crop production. While the estimated aggregate impacts are small (less than 1 percent of cultivated land), we estimated that the increase in crop insurance subsidies over 1992-97 primarily affected land use on low quality and some environmentally sensitive lands, such as wetlands and highly erodible land. Lands in CRP are generally less productive and more prone to erosion damage -- but not nutrient runoff and leaching -- than the average cropland area. Lands affected by crop insurance subsidies and CRP differ from each other and from other croplands relative to imperiled species habitat, but no causal relationships can be determined from the data.

Specific activities to move the program toward the desired goal:

ERS research and analytical activities are designed to enhance understanding by policymakers, regulators, program managers, and those shaping public debate of economic issues related to developing Federal farm, natural resource, and rural policies and programs that protect and maintain the environment while improving agricultural competitiveness and economic growth. These activities support achievement of USDA Goal 6, "Protect and Enhance the Nation's Natural Resource Base and Environment."

ERS will identify key economic issues related to interactions among natural resources, environmental quality, and the agriculture production system. ERS will also use sound analytical techniques to understand the immediate and broader economic and social consequences of alternative policies and programs to protect and enhance environmental quality associated with agriculture. ERS will effectively communicate research results to policymakers, program managers, and those shaping public debate on agricultural resource use and environmental quality. ERS supports the USDA programs crosscut through its research on how economic issues affect farmers' choices among alternative pest management practices and technologies.

ERS supports the USDA Biotechnology Coordination Group and interdepartmental efforts with the Food and Drug Administration and the Environmental Protection Agency in the biotechnology crosscut through research that addresses both product impacts for farmers and industry behavior and potential impacts from industry concentration in this area. Research and related data collection efforts are designed to capture this rapidly emerging and turbulent technological change. Examples of these activities will include the following:

- Characterizing changes in land management and shifts in agricultural land use—particularly the movement of land into and out of crop production—and the economic and environmental effects of these changes, including impacts on carbon sequestration, soil erosion, biodiversity, and nutrient

management. Determining what economic and policy factors have prompted shifts between crop production and other land uses.

- Assessing the extent and spread of contracting and other structural change in production agriculture and outlining the basic economics underlying why farmers and processors have made these changes. Summarizing evidence on the environmental and economic effects of contracting and highlighting emerging policy issues created by expanded contract use and structural change, including impacts on animal waste management.

Future research and analysis will build on the successes of past performance to deepen understanding of issues explored, highlight new policy concerns revealed by prior analysis, and anticipate upcoming needs of policymakers and decision makers. These activities will include the following:

Privately Funded Conservation: What Can Farmers Sell? How can demand for environmental goods farmers can produce be “focused” so that farmers can benefit financially for providing the goods to those willing to pay for them? This project would develop the idea of a *conservation exchange* for agriculture by: (1) identifying the environmental services farmers could provide; (2) identifying impediments to market formation; (3) identifying the roles government can play to help develop markets, including assignment of property rights, certification of ecosystem services, education, enforcement of contracts; and (4) exploring potential impacts on agriculture from development of such markets.

Linking Environment and Agriculture Research Network. Evaluating policy issues and impacts at the agri-environmental interface requires complex datasets and models containing detailed information on underlying economic and environmental conditions. This project will aim to provide a better means of information and data sharing in an effort to enhance collaboration and create synergies in data merging efforts.

Green Payments in Agriculture. Research will focus an analysis of the (1) distribution of income support; and (2) environmental gains from various hypothetical green payment scenarios. A new model will be developed which will identify who may participate in various programs, what type of payments they might receive and predict the environmental impact of their program participation.

Partnerships

Because ERS's economic analysis covers all aspects of USDA's mission the crosscuts between ERS research and the missions and goals of other USDA agencies are extensive and complicated. ERS's unique contribution is provision of external economic analysis.

- ERS works closely with the Foreign Agricultural Service, World Agricultural Outlook Board, and the Office of the U.S. Trade Representative to analyze the international agriculture and trade effects of the World Trade Organization (WTO).
- ERS works with the Rural Development mission area to develop an integrated base of information about rural economic and social conditions that can be used for strategic planning and program performance assessment. For example, ERS provided a description of several sources of rural definitions used across the government and in policy making. The description included a summary of the methodology, advantages, and limitations of each definition; a socioeconomic comparison of the different rural populations identified by each method; and a visual comparison of each method using overlay analysis maps, to highlight the substantial geographic differences among the definitions.
- ERS actively participates in two of USDA's bioenergy coordinating councils: the USDA Biobased Products Bioenergy Coordination Council (BBCC), and the Agricultural Bioenergy & Bioproducts Research Education and Economics (ABBREE) Task Force. The BBCC was established in 1995 to coordinate activities across the Department and to provide advice on the Federal government's role in

the development and commercialization of biobased industrial products from agricultural and forestry resources. The BBCC serves as the working arm of the Secretary's newly formed Energy Council, chaired by the Under Secretary for Rural Development. The Energy Council's goal is to accelerate and expand the department's activities in renewable energy. The BBCC has representation and participation from all agencies and programs, develops a 5-year plan and annual priorities, and provides information about policy implications within USDA. ABBREE was formed in 2006 by REE Undersecretary Buchanan to ensure coordination and communication within the REE mission area on bioenergy-related priorities. ABBREE meets bi-weekly to establish visions and goals, identify program focus areas, identify critical cross cutting issues, establish agencies' responsibilities, and suggest processes to achieving goals. A workshop is being planned for September 2007 to formalize and harmonize these objectives.

- ERS works with the National Agricultural Statistics Service to provide a comprehensive annual source of data to monitor the economic contribution of farming to the national economy, assess the performance of farms, and determine the well-being of farm households. NASS and ERS have a strong working relationship, particularly with the design, enumeration, and dissemination of the Agricultural Resource Management Survey (ARMS). An ERS/NASS ARMS Steering Committee meets monthly to discuss issues of mutual concern and to coordinate Agency activities. ERS staff members participate in NASS training schools and in data editing operations. Coordination takes place at several levels (Administrator to Administrator; Division Director to Division Director statistician to economist), and between levels.
- ERS county classifications are essential to other Federal agencies, such as the U.S. Department of Health and Human Services (HHS) that administer programs in rural areas. The new HHS Frontier Communities Program designed to provide health assistance to needy rural areas will draw heavily from ERS county classifications to determine program eligibility. ERS's unique contribution is provision of external economic analysis and the most current comprehensive data for analysis.
- ERS is a member, along with the Agricultural Research Service (ARS), the Food Safety and Inspection Service (FSIS), the Food and Nutrition Service (FNS), the Farm Services Administration (FSA), the Cooperative State Research, Education and Extension Service (CSREES), and the Office of Risk Assessment and Cost-Benefit Analysis (ORACBA) of the USDA Food Safety Risk Assessment Consortium. ERS's unique contribution is the provision of economic analysis to complement food safety risk assessments.
- ERS has an ongoing relationship with the Food Safety and Inspection Service to support economic analysis of departmental efforts to strengthen and improve safety of the nation's food supply.
- ERS has an ongoing relationship with the Centers for Disease Control and Prevention to support economic analysis of the costs of foodborne illness in the U.S.
- ERS is an active participant in the USDA response to the Homeland Security Presidential Directive No. 9 (HSPD-9) of January 30, 2004, which established a national policy to defend the agriculture and food system from terrorist attacks, major disasters, and other emergencies.
- ERS is working with other USDA agencies and USDA's Homeland Security Office to help assess food security implications, and potential economic impacts of an epidemic, as required in the development of a National Plant Disease Recovery System (NPDRS). ERS staff help DHS Centers of Excellence, the Food and Drug Administration, Los Alamos and Sandia National Laboratories and DHS's University programs to identify data sets needed to characterize the economic aspects of the food and agriculture sectors in the U.S. The ERS staff cooperate with DHS-funded Bio-Defense Knowledge Center researchers at Lawrence Livermore National Laboratory in their efforts to strengthen animal disease economic modeling efforts. The project currently focuses on FMD analysis with a special emphasis on sharing data across the ERS-GIS platform. ERS staff continue to support Army Corps of Engineers, Oak Ridge National Laboratory, and the Massachusetts Institute of Technology development of a prototype commodity and freight transportation simulation tool that

more represents the effects of transportation disruptions. ERS staff contribute to the National Research Council's Committee on Methodological Improvements to DHS's Biological Agent Risk Analysis. ERS staff assist the Industrial College of the Armed Forces at the National Defense University with their Agribusiness Industry Study programs.

- In recent years, ERS has received funding under the Consumer Data Initiative to develop an integrated and comprehensive data and analysis framework of the food system beyond the farm-gate that will provide a basis for understanding, monitoring, tracking, and identifying changes in the food supply and in consumption patterns. ERS is collaborating with the Community Nutrition Research Group at ARS to develop a food-commodity database (Food-Commodity Economic Database) for the 1999-2004 National Health and Nutrition Examination Survey (NHANES), followed by efforts to modify the database for earlier food intake data to support trend analyses of commodity use.
- One example of cooperative efforts relating to food and nutrition is ERS's priority setting process for economic research on food and nutrition. Each year, ERS's Food Assistance and Nutrition Research Program (FANRP) convenes a priority-setting conference to help set the research agenda for that year's extramural grants and cooperative agreements. The conference is attended by representatives from USDA (especially FNS), other Federal agencies, university researchers, and private sector stakeholders.
- ERS funds the Research Innovation and Development Grants in Economics (RIDGE) Program. The program (formerly known as the Small Grants Program) is administered in partnership with five academic/research institutions. The five institutions oversee the application, peer review, and grant award processes. Each institution covers a different aspect of food assistance, nutrition, or subgroup of recipients as its primary focus. The five institutions are: the Southern Rural Development Center (Mississippi State University), The American Indian Studies Center (University of Arizona), the Institute for Research and Poverty (University of Wisconsin), The Harris School of Public Policy (University of Chicago), and the Department of Nutrition (University of California).
- ERS works with the Natural Resources Conservation Service (NRCS) and the Farm Service Agency (FSA) to support formulation and implementation of the Conservation Security, Conservation Reserve, Swampbuster, and the Environmental Quality Incentives programs. Such activities bring ERS staff in close cooperation with the Department of Interior and EPA, as do ERS efforts to improve understanding of the economics of integrated pest management and resource-conserving production practices. ERS's unique contribution is provision of objective external economic analysis.
- ERS has an active program of collaborative research involving the academic community, particularly the 1862 State Land-Grant universities and the 1890 Historically Black Land-Grant Universities. In Fiscal Year 2006, ERS funding for cooperative research agreements for all sources was over \$6.4 million.
- The Program of Research on the Economics of Invasive Species Management (PREISM) focuses on decision-making related to invasive species of agricultural or USDA program significance. Competitive awards are granted to researchers from State agricultural experiment stations, colleges, universities, other research institutions or organizations, Federal, State, or county agencies, private organizations, corporations, or individuals. Program planning, priority setting, and development of the Request for Proposals are done in coordination with APHIS, OCE, OBPA, FS, NRCS, CSREES, and ARS. ERS hosts an annual research-results conference to which each of the agencies above are invited as well as DOI, EPA, and academic researchers. Comments received after the annual meetings are included in priority setting discussions for following years. ERS reports PREISM results at national conferences and events such as at National Invasive Weeds Awareness Week.
- At the request of USDA and ERS, the Committee on National Statistics (CNSTAT) of the National Academies convened an expert panel to review the methods and procedures that USDA used to measure and report on food security. The panel recommended changes to the way the Department characterized the concept of food insecurity; changes which have been adopted.

- The Academies have also convened a CNSTAT expert panel at the request of ERS and NASS to conduct a review of the Agricultural Resource Management Survey.
- ERS has entered into a reimbursable agreement with the National Cancer Institute to support a module concerning eating as a secondary activity, height and weight in the American Time Survey.

External Factors

ERS's success depends on its role as a national center of excellence for economic analysis on agriculture, food and nutrition, environmental, and rural issues. Policy makers and program managers are increasingly called upon to assess the efficiency and equity consequences of public policies, regulations, and programs. The demand for more and better information is accelerating in today's knowledge-based and increasingly complex society. ERS's role in informing and analyzing alternative public policy options is therefore growing in importance.

At the same time, ERS is being asked to do more with declining real resources. Essential to an effective response to these demands are telecommunication and computer technology developments that can enhance analytical capabilities and improve communication with customers and partners. ERS recognizes that getting its research and analysis to key customers in the form they want and at the right time matches the importance of doing excellent work on relevant topics. The Agency must continue to invest in integrating useful new information technologies into agency operations. Innovation is key to ERS's ability to do more with fewer staff resources. Clearly, the Internet has offered significant opportunities for providing real time information to customers in easily usable forms. ERS takes advantage of these opportunities by using the ERS Web site as its principal tool for communicating with customers. The Agency will need to sustain and constantly upgrade its efforts in this area. Increasing flexibility in procurement and personnel regulations also offers new opportunities for a more responsive, adaptable and efficient ERS.

National employment trends affect ERS's ability to obtain and retain a highly skilled and technically competent ERS work force. The high level of academic training required for economic and other social science research and the need to achieve a more diverse workforce mean that ERS will continue its emphasis on recruitment, retention, student employment, career enhancement, training and retraining programs.

Changes in the larger policy context in which ERS operates will influence the content and orientation of ERS research and analysis. Changing perceptions about the role of government regulation have accelerated the search for effective and voluntary market-oriented measures as alternatives to traditional farm programs. In addition, the increasing scale and concentration of agricultural activities have raised environmental issues pertaining to waste management and issues about the role of market power. Rapidly changing economic, social, and medical environments have raised challenging questions about the nutritional quality and costs of good diets and food safety and their implications for individuals, society, and the food industry. International trade agreements are shifting the focus of trade disputes away from tariffs and toward issues relating to technical barriers to trade such as labeling of genetically engineered products and sanitary and phytosanitary measures that are not science based. Continued evolution of the demographic, economic, and industrial structure of rural areas will change policy debates regarding the well-being of rural people and communities. Finally and significantly, the continued growth of grain-based ethanol production, and the prospect of commercializing ethanol from other sources of biomass, underscores the need for examining the influence of bioenergy and bioenergy policy on domestic and global agricultural markets, natural resources, the environment, rural communities, and implications for food prices. Through its contacts with policymakers and academic experts, as well as the recognized expertise of its staff, ERS expects to keep pace with change as and before it occurs.

Summary of Budget and Performance

Key Performance Outcomes and Measures

Agency Goal: The long-term performance goal across USDA and agency goal areas is the successful execution of the ERS program of economic research and analysis to provide policymakers, regulators, program managers, and those shaping the public debate on agricultural economic issues with timely, relevant, and high-quality economic research, analysis, and data to enhance their understanding of economic issues affecting food and agriculture. A general discussion of performance measures follows.

Key Outcome: The key outcome of the ERS program is to inform and enhance public and private decision making on economic and policy issues related to agriculture, food, the environment, and rural development.

Application of the Research and Development Investment Criteria at ERS

ERS research and management practices use many methods to apply the research and development investment criteria. These practices are designed to ensure that the direction of agency research activities reflects current and anticipated needs of ERS stakeholders and customers, that research and analysis produced by the agency adheres to disciplinary standards to ensure the highest possible quality, and that the agency's research products are delivered in a way that is accessible to customers.

Principal practices to ensure research quality

ERS staff publishes research and analysis in a variety of outlets, such as research monographs, ERS periodicals, journals, and presentations outside ERS. For all products, the overriding objective is high-quality economic analysis and communication of findings. Review and clearance is a collaborative process that begins with defining the questions and hypotheses to be investigated and selecting the appropriate methodologies. Official review and clearance guidelines are designed to ensure high-quality analysis.

All products must meet disciplinary standards for quality and must receive substantive peer reviews by qualified experts who have the background, perspective, and technical competency to provide a meaningful assessment of the research design and findings. Reviewers are composed of a mix of individuals outside the author's immediate work unit and at least one from outside the agency. In addition, publications that involve other Federal programs must be reviewed by researchers/analysts from the relevant program agency.

ERS economic research and analysis includes two extramural research programs, the Food Assistance and Nutrition Research Program (FANRP) and the Program of Research on the Economics of Invasive Species Management (PREISM). FANRP's competitive grants and cooperative agreements fund research on strengthening economic incentives in food assistance programs; food assistance as a safety net; and obesity, diet quality, and health outcomes. PREISM examines the economic issues related to managing invasive pests in increasingly global agricultural markets. The ERS program focuses on national decisionmaking concerning invasive species of agricultural significance affecting, or affected by, USDA programs. Both programs are publicly announced and competitively awarded through the use of peer review panels.

Principal practices to ensure research relevance

ERS interacts with stakeholders and customers in many ways to ensure that the research agenda focuses on topics relevant to public and private decisionmakers. One example of such interaction centers on involving stakeholders in discussions of potential research issues relevant to a given area. ERS regularly

convenes workshops, stakeholder sessions, or other meetings in which the results of recent agency research are discussed, upcoming policy issues are identified, and questions for future research are explored. In this way, interaction with stakeholders and customers helps sharpen the agency's research focus to better anticipate future needs for public and private decisionmakers. Another method to ensure relevance of agency research and analysis centers on ERS strategic planning processes. Strategic planning processes at ERS involve discussing with stakeholders the retrospective assessment of research accomplishments and agency impact, identifying key policy areas for potential future impact, and establishing research program priorities.

In addition to efforts to ensure the relevance of long-term research, ERS also asks customers to assess the relevance of staff analysis provided to USDA and other government officials. ERS uses a short questionnaire to sample customers of staff analysis to gather feedback from them about relevance, usefulness, timeliness, and accessibility of the product delivered. The instrument provides valuable insight into the relevance of information from ERS in informing decisions by key policymakers.

Principal practices to assess performance: key performance measures

ERS employs several practices to assess performance of the agency's research program. These activities are designed to identify how ERS research contributes to discussion of issues in a sector, how effectively agency information is communicated to customers, and how the efficiency of the program can be improved.

Central to effective ERS performance is successful completion of planned research that enhances understanding by policymakers, regulators, program managers, and those shaping the public debate of economic issues related to enhancing economic opportunities for agricultural producers. Effective performance of economic research and analysis can be inferred through an integrated suite of measures designed to provide an indication of aspects of program performance. The key challenge for providing an overall assessment of research program performance is to develop a set of measures that, taken together, can provide a comprehensive view of program performance.

The framework for assessing the performance of the ERS economic research and analysis program centers on adherence to the Research and Development Investment Criteria principles of relevance, quality, and performance. Agency assessment practices provide a broad framework for assessing success in achieving these criteria. The degree of success can be further assessed through application of a quantitative performance assessment tool that considers factors key to successful research, based on relevance, quality, and performance. The tool consists of a three-category performance indicator that reflects the interval of the point score achieved on a quantitative research program assessment tool. A key component of evaluating agency performance in these areas will be program evaluation conducted by outside review panels. Panels assess the relevance, quality, and performance of agency programs by using the quantitative assessment tool based on the assessment criteria, which are summarized below. These criteria, taken together, will provide an indication of agency performance.

Data and other information collected for the ERS performance measurement framework are used to monitor, evaluate, and revise program activities and resource allocation to meet changing priorities in support of the ERS mission. ERS management regularly discusses implementation of research activities to ensure continued and improved agency effectiveness. The outcome of program review activities has been used as a basis for resource allocation and strategic planning activities for the food economics program and the market and trade economics program. The results of the American Customer Satisfaction Index (ACSI) customer survey indicate a customer priority for improving data accessibility and dissemination. These priorities are reflected in current activities to improve data dissemination via

the ERS Web site. The results from the ACSI Web site customer satisfaction survey are used to inform initiatives to improve navigation on the ERS Web site.

ERS strategic planning activities include reviews of progress in meeting program plans and implementing revisions, as necessary. Changes reflect activities to ensure continued relevance of ERS research and analysis activities and to continue to provide useful and appropriate products to customers. ERS strategic planning includes discussions with customers and stakeholders on prospective research projects to meet anticipated needs of policy officials. Stakeholder conferences are used to help set priorities for ERS extramural funding programs. In FY 2008, ERS budget initiatives are aimed at responding to interests of ERS customers for continued relevant research, analysis, and data.

Performance Measure	FY 2003 Actual	FY 2004 Actual	FY 2005 Actual	FY 2006 Actual	FY 2007 Target	FY 2008 Target
Portfolio Review Score: Qualitative assessment by external experts of the relevance, quality, and performance of ERS research portfolios to enable better informed decisions on food and agricultural policy issues.	n/a	n/a	Excellent	Excellent	Excellent	Excellent
ACSI Customer Satisfaction Rating	n/a	n/a	75	n/a	n/a	74
Policy Official Satisfaction Survey	n/a	n/a	97	96	82	82
Percent of requested analysis delivered on time	95	94	95	97	100	100
Customer satisfaction with the ERS Web site	74	72	72	72	73	73
Index of ERS Product Releases per Staff Year	1.4	1.7	1.8	1.8	1.8	1.9

Portfolio Review Score

A series of independent expert review panels will conduct a cycle of reviews over five years to evaluate the effectiveness of the ERS program of economic research and analysis to enable better informed decisions on food and agricultural policy issues. The first three reviews are disciplinary, while the remaining two will be cross-cutting reviews across the entire program. The review cycle is: (a) food economics (2005), (b) market and trade economics (2006), (c) resource and rural economics (2007) (d) policy impacts of research (2008), and (e) agency communications and dissemination (2009). In each review, the external panel will assess the relevance, quality, and performance of program plans, activities, and accomplishments. This assessment will include an evaluation using a quantitative analysis tool to rate portfolio effectiveness on a multi-category scale (excellent, adequate, needs improvement). The panel recommendations will be used in agency strategic planning and priority setting.

ACSI Customer Satisfaction Rating

This measure is designed to assess the satisfaction of private and other external customers with the relevance, usefulness, and accessibility of ERS research, data, and analysis, as measured by the ACSI. This measure tracks relevance and usefulness of ERS research, analysis, data products, and services, as determined through a survey of agency customers using the ACSI. The survey is conducted on a three year cycle. In 2005, the most recent year, ERS customer satisfaction rated above targeted levels, and above average customer satisfaction with government programs. The customer satisfaction survey is planned for 2008 and 2011.

Policy Official Satisfaction Survey

This measure is designed to assess the satisfaction of USDA and other government decisionmakers with the relevance and usefulness of requested analysis. ERS provides a broad range of research, data, and analysis for public and private decisionmakers to use in their analysis of economic issues affecting the food and agricultural sector. Throughout the year, policy officials from USDA agencies or outside of the Department request that ERS provide analysis on specific questions of interest to the requestor. Such questions, referred to as “Staff Analysis,” provide policy officials with assessments relevant to their particular questions, and the analyses are typically requested for quick turnaround. This measure assesses requestors' satisfaction with the usefulness of materials provided by ERS in response to their requests for short-term, tailored research, analysis, and data.

Percent of Requested Analysis Delivered on Time

For the “Staff Analysis” described in the previous measure, an indicator of agency performance is the timeliness with which responses are provided to the customer. This measure tracks the timeliness of responses by ERS to requests for short-term, tailored research, analysis, and data from government policymakers.

Customer satisfaction with the ERS Web site

In recent years, ERS recast its information dissemination and communications channels to adopt a Web-centric approach to communicating with customers. As a result, all ERS research, data, and other information disseminated by the agency are available through the ERS Web site. This measure is an indicator of customer satisfaction with the ERS Web site using a survey based on ACSI. The measure tracks satisfaction of Web site users and provides a basis for comparison with similar government and private-sector Web sites. The target for this measure is at or above the average rating for government Web sites in the Information/News category.

Efficiency Measure - Index of ERS Product Releases per Staff Year

ERS has carefully redefined its product mix and publication policy to target and present our research findings and information in a logical fashion. During the 2001 to 2006 period, the number of products released increased from 238 to 365. During that time staff years (Sys) declined from 491 SYs to 396 SYs. Using these numbers and basing them to 2001=1 results in product release efficiency going 1.0 in 2001 to 1.9 in 2006. Even if the number of products remained constant over time, productivity would need to increase to sustain production levels. The ratio is calculated as [number of products released]/[total SYs]. Every year is then compared to the ratio value in 2001. The measure defines outputs as all published items, Web-based briefing rooms, and data products produced by ERS staff during the fiscal year. Staff years include all actual ERS employees, whether research, support or administrative.

PART Assessments:

ERS' entire economic research and analysis program was assessed with the OMB Program Assessment Rating Tool (PART) for the FY 2007 budget. The overall program rating was “effective.” PART findings concluded that ERS ensures its research quality through internal and external peer reviews, and customer satisfaction with ERS products has been at or above target levels. The PART assessment recommended that (1) ERS continue to track the measures that have only baseline or partial data to ensure that performance is improving or remaining on target, and (2) ERS determine the impact of research by surveying users on the extent to which they find ERS products useful in decisionmaking.

ERS is undertaking activities to track its performance measures and to continue surveying customers about the usefulness of ERS products in decision making. ERS has completed all follow-up actions associated with OMB's PART recommendation to survey customers about the usefulness of ERS

products. ERS continues to assess customer use of and satisfaction with ERS products using the Policy Official Satisfaction Survey. Customer satisfaction ratings continue to run well above target levels (96 percent versus a target level of 80 percent).

ERS has also completed all follow-up actions associated with OMB's PART recommendation to continue to monitor ERS performance measures that have only baseline or partial data. This recommendation applies to the following performance measures: Policy Official Satisfaction Survey, Portfolio Review Score, and American Customer Satisfaction Index (ACSI) Customer Satisfaction Rating.